



Black Cockatoo, Yanchep

8. The Environment

A key objective of the Strategy is to balance the City’s significant urban growth with the protection of the environment. The development of a sustainable City is one of our community’s key aspirations as expressed in our Strategic Community Plan.

8.1 Environmental considerations

The City is home to diverse environmental assets including our coastline, wetlands and high quality areas of natural vegetation. We acknowledge the important role Aboriginal people have played in the historic and ongoing stewardship of our natural environment, and aim to continue to protect it as development occurs. As our population grows, and in line with the City’s Local Environment Strategy, we will also take measures to reduce the impact of urban development on our carbon footprint.

Whilst facilitating urban growth will be critical, we will consider the impacts of development on the environment as part of planning processes. Most of the City’s land where new development will occur has already been zoned for urban development and inevitably some clearing in these areas will occur. Whilst our ability to directly influence some areas of land development is limited, we will focus on strengthening provisions in LPS 3 and planning policies to achieve better environmental and livability outcomes.

The North-West Sub-regional Planning Framework requires the City to facilitate urban development whilst preserving and enhancing the sub-region’s environmental and landscape values for future generations to enjoy. This will involve using local scheme

reserves to protect ecological linkages, whilst retaining and protecting priority local natural areas. It will also involve mitigating climate change; and planning and developing our coastline to provide access and facilities for beach users, whilst ensuring its protection and addressing coastal issues such as sea level rise.

Whilst this section focuses on climate change, protecting local biodiversity and managing our coastline, other sections of the Strategy also consider land use planning responses to these issues including our Infrastructure and Community, Urban Growth and Settlement sections.

Our Strategic Community Plan Goal that relates to the Environment is:

'A sustainable City that balances the relationship between urban growth and the environment'.

Our existing local environmental plans and strategies reflect our aspirations for our environment outlined in our Strategic Community Plan and include more detailed measures that the City will take to mitigate and manage local environmental impacts. These plans and strategies are outlined in Figure 19.

Additionally, the City’s local planning policies also include important measures to improve environmental outcomes. These will be updated and strengthened over time to reflect actions in this strategy. These policies are outlined in Part 2.

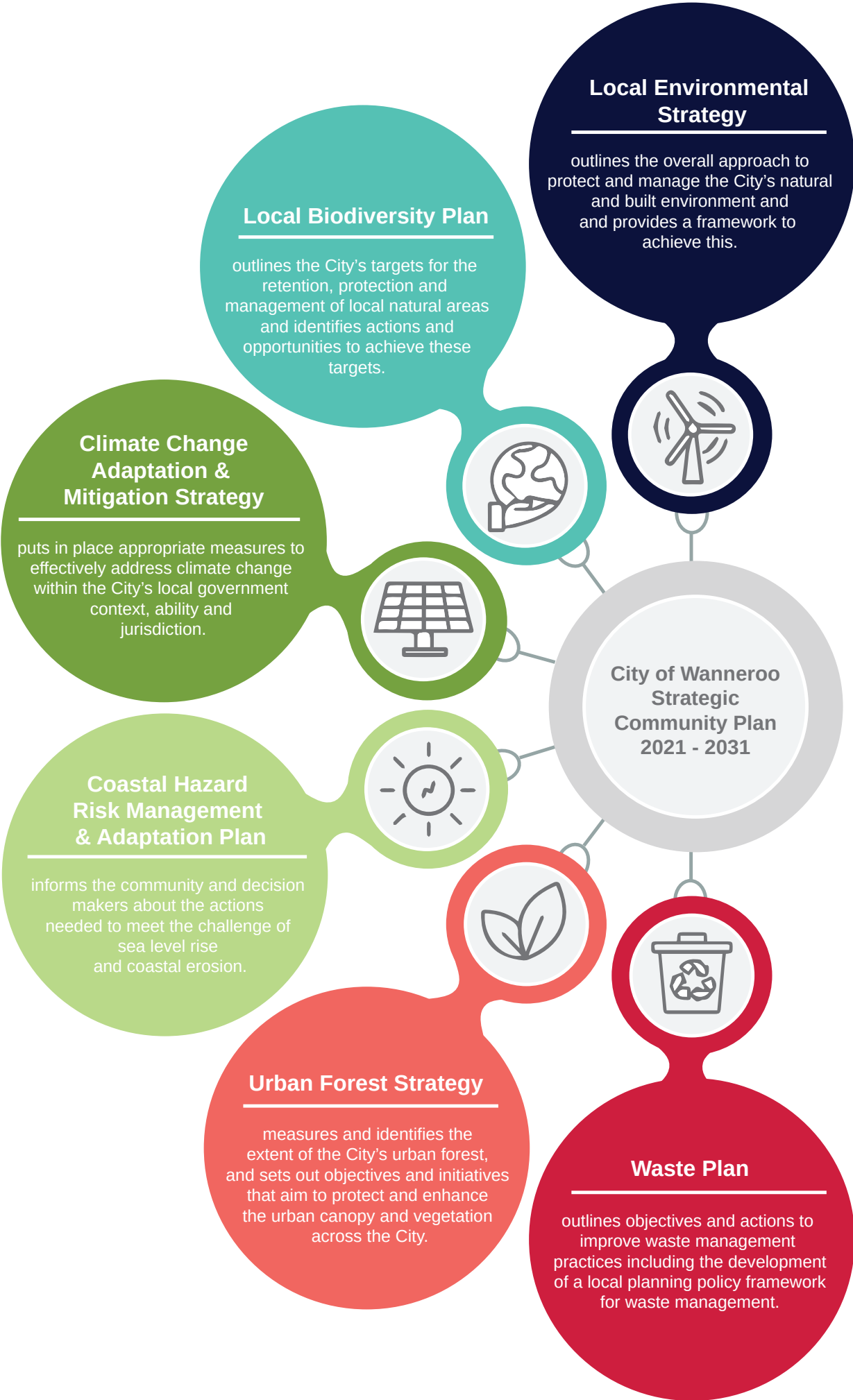


Figure 19: Existing local environmental plans and strategies

8.1.1 CLIMATE CHANGE

The Perth metropolitan region is becoming hotter and drier with more frequent and severe bushfires and extreme weather events. Land use planning can play a role in how we adapt to these changes, whilst contributing towards mitigating more catastrophic climate change outcomes by reducing our carbon footprint.

A key action in the City's Local Environmental Strategy is to investigate ways to promote energy and water efficiency in new developments. The use of development incentives may be an effective way to achieve this, and could include offering increased building heights or plot ratio bonuses to developers with larger-scale planning proposals that demonstrate exceptional energy efficient design and a significant reduction in energy consumption, without compromising urban tree canopy.

Incentives may also apply to developers who can demonstrate exceptional water management, water conservation and a significant reduction in mains water use. The City will investigate the use of rating systems such as Green Star, NatHERS, EnviroDevelopment and One Planet Living in our assessment processes to measure the environmental sustainability and performance of developments to determine eligibility for incentives.

Developers in the City will also be encouraged to adapt and reuse buildings, allowing developments that are constructed for one use to be retrofitted for another use. This type of development benefits from re-purposing embedded carbon within existing built form. Examples include using residential properties for non-residential uses in mixed-use areas; reusing warehouses

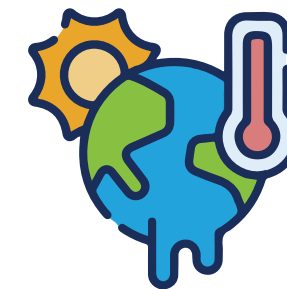
as supermarkets or other retail uses and the use of houses in development estates as sales offices until they are ready to also be sold as housing. In the current market, the financial viability for developers to adapt and reuse buildings can be limited. The City will seek to work with the State Government and the development industry to explore incentives to increase the uptake of adaptive re-use techniques.

Land use planning that mitigates car dependency is another effective way to reduce carbon emissions. The Infrastructure section of the Strategy discusses mechanisms and actions to further encourage a modal shift from private cars to alternative and sustainable methods including:

- increasing transit - orientated development (TOD) in the City;
- requiring developers to include bicycle storage and end of trip facilities in certain types of developments.
- requiring a minimum number of electric vehicle charging bays in areas with higher provisions of parking such as activity centres, service commercial and industrial areas and on regional beaches.
- incorporating maximum rather than minimum car parking bays requirements; and
- increasing focus on reciprocal parking.



Mitigating the negative impacts of climate change through future land use planning will be a priority for the City as development continues.



8.1.2 PROTECTING BIODIVERSITY AND INCREASING URBAN FOREST

An effective way to offset carbon emissions and improve urban ventilation is by protecting high quality vegetation and natural areas, as well as planting more trees. Whilst urban development forecasts will result in the loss of some vegetation and natural landscapes in the City, we will focus on retaining our more significant habitat areas as well as increasing vegetation and urban tree canopy.

The City's Local Biodiversity Plan identifies priority local natural areas and ecological linkages, which are not protected through State or Federal legislation. The Plan proposes to incorporate these areas into land use planning decision-making processes to retain and protect them from future development, where possible. The Local Biodiversity Plan is currently being reviewed and a new map will be provided to show local and regional ecological linkages. The relevant outcomes of the Plan and maps will be included in a revised version of the Strategy and the City will explore opportunities to protect higher priority native vegetation through its local planning framework. We will also seek to review local and district structure plans to determine opportunities to protect priority vegetation and give consideration to how future structure plans respond to, identify and propose to protect natural areas as part of planning assessment processes for scheme amendments, structure plans and development applications.

The City's Urban Forest Strategy, (developed to align with the WAPC's Better Urban Forrest Planning Guide), proposes an approach to maintain and increase tree cover to a minimum of 5%

across all suburbs in the City, focusing on heat islands. This will gradually increase to 15-20% tree canopy cover across all suburbs as part of a staged approach.

A State wide, standardised approach to tree protection is currently being investigated. The City will work with the State to develop the approach and will investigate mechanisms within the local planning framework to protect significant trees.

Whilst the State Government has recently introduced minimum tree planting requirements for residential developments through the Residential Design Codes, we will apply this to all types of developments, including commercial and industrial developments through LPS 3. This will involve introducing minimum tree planting requirements per square metre, instead of 'per lot', with different planting requirements for different types of developments or locations (e.g. within activity centres). Additionally, increased soft landscaping percentages will be introduced within the City's built form policies and other statutory documents, to reduce hardstand areas and urban heat island effect and to enhance local streetscapes.

We will also work with the State Government, developers, industry bodies and our community to improve the design of neighbourhoods to accommodate more native vegetation and to provide more space for trees. As development occurs, particularly along the north-west coastal corridor and East Wanneroo, natural environments will become defining features of places and will contribute towards local identities and senses of place. Particular design outcomes that we will seek to achieve will include the provision of wider road reserves to allow for more vegetation

to be retained or planted on both sides of roads, improved public open space design to incorporate 'linear' parkways, as well as greater setbacks on private residential lots to allow for the provision for 1 tree per lot.

In order to address climate change, increase biodiversity and facilitate food security, the viability of the use of the City's verges for urban agriculture will be considered through the local planning framework. Verge gardens can provide many benefits including increasing the City's urban forest, reducing heat islands, providing ecological linkages and shelter for fauna, facilitate food production and increase community interaction. The use of verges for food security is an important factor to be considered and aligns with a growing trend globally to promote urban agriculture and food production, due to the desire for equity in food supply access across economic divides, health benefits of fresh food, a push to lower emissions from transportation costs and education.

8.1.3 WASTE MANAGEMENT AND CONTAMINATION

As outlined in the Infrastructure section of the Strategy, improving ways in which developments use and manage waste will be important to improve the City's overall sustainability and reduce our contribution to landfill. The City's Waste Plan 2020 - 2025, outlines how we can improve upon our current waste management practices. In line with the Waste Plan, we will develop a local planning policy to guide the provision of waste management facilities in new developments. These will be supported by detailed operational guidelines which will stipulate bin locations and waste requirements for developers undertaking larger-scale projects. This is discussed in further detail in section 9.2.1.

Numerous contaminated sites exist throughout the City. We will continue to manage these in accordance with State

Government legislation and regulations. Longer term, there may be an opportunity to investigate alternative uses for some contaminated land parcels as the demand for land increases and the cost of remediation decreases.

Local Planning Policy 3.1 - Local Housing Strategy has identified infill areas such as Yanchep and Two Rocks. These areas were dependent on the Department of Water's infill sewerage program to deliver deep sewerage connections to these areas to accommodate infill development, however, a change in priority of this program has reallocated funds to higher priority areas elsewhere which means these areas remain constrained to the lower density.

The City will assist to facilitate or advocate for connection to sewerage infrastructure for new development and, if necessary, investigating options for making it feasible where sewer isn't currently available.



Amberton Estate, Eglinton

8.1.4 WATER MANAGEMENT

Over the last two years, the City has achieved Gold Waterwise accreditation from the Water Corporation in partnership with the Department of Water for meeting its water usage targets, demonstrating a proven track record for water management. This included the successful implementation of the Northern Coastal growth Corridor Water Supply Strategy, prepared in partnership with the Department of Water, resulting in certainty of supply for establishment and ongoing water use, as well as consistent landscaping across developments. Similar approaches could be considered for other areas of the City, including East Wanneroo, to ensure equity of approach across the City, and to further optimise groundwater use.

A Water Management Study has been prepared by consultants to support this Strategy (Appendix C). The study includes a number of findings and recommendations including scheme mechanisms to foster greater consideration of water management issues when determining development proposals. The City will consider the findings and actions from the Water Management Study and investigate the potential to implement the listed recommendations, where appropriate. Existing Local Water Management Strategies for district structure plan (DSP) areas, including for East Wanneroo, will continue to be implemented, with supplementary water management reports prepared for local structure plans within these DSP areas.

North Wanneroo

As discussed in section 7.2.6, the City supports the retention and growth of North Wanneroo's agricultural and horticultural industries

Despite this, it is acknowledged that landowners in North Wanneroo face major

challenges as a result of climate change and the State Government's plans to reduce water allocations to growers by 10% from 2028, which is outlined in its Gngangara Groundwater Allocation Plan.

The City does not support these plans, as most licenced operators in the region are already maximising the efficiency of their water resources. Reducing water allocations will adversely impact local food producing businesses, which will threaten this important industry.

In line with the City's Agribusiness Position Paper, we will continue to advocate for food producers to be exempt from future water allocation reductions or for any reductions imposed to be supplemented with an alternative affordable, longterm water supply. The future desalination plant, which will be located in Alkimos, presents opportunities for local growers to receive some water entitlements to compensate for the planned reductions.

Additionally, recent work undertaken by the Department of Water and Environmental Regulation suggests that groundwater levels in the East Wanneroo District Structure Plan area are predicted to rise with development. There is an opportunity in the future for excess water in East Wanneroo to be transported for the use of agricultural and horticultural growers to alleviate the impacts of the water allocations restrictions that they face. The City will work with the State Government to achieve mutually beneficial outcomes for North Wanneroo growers and development in East Wanneroo.

8.1.5 ENVIRONMENTAL CHARACTERISTICS IN THE CITY

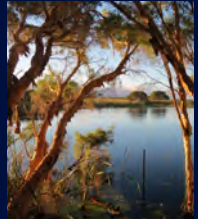
The issues, opportunities and actions outlined in this section seek to protect the City's most important environmental values. What follows is a summary of the values we will seek to protect for future generations to enjoy.



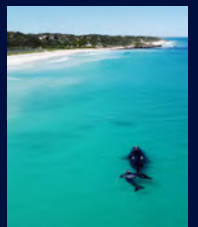
Landforms and Soils
including the Quindalup Dunes, Spearwood Dunes and the Bassendean Dunes, requiring careful management.



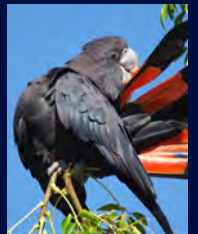
Karstic Features and Limestone Caves
which range in size with the most notable being the Crystal Caves in Yanchep. The City's local planning policy seeks to minimise the impact of development on these systems.



Ground and Surface Water
including the region's main water supply, the Gngangara Mound and other wetland ecosystems (e.g. Yellagonga) which provide habitat to a variety of flora and fauna.



Coastline
which is adjacent to a corridor that will experience rapid growth. Most of the immediate coastline is contained in reserves for Parks and Recreation, as well as 'Bush Forever'.



Flora and Fauna
including 11 of the 15 vegetation complexes found on the Swan Coastal Plain (Pictured) and 27 rare and priority fauna species including varieties of turtles and cockatoos.

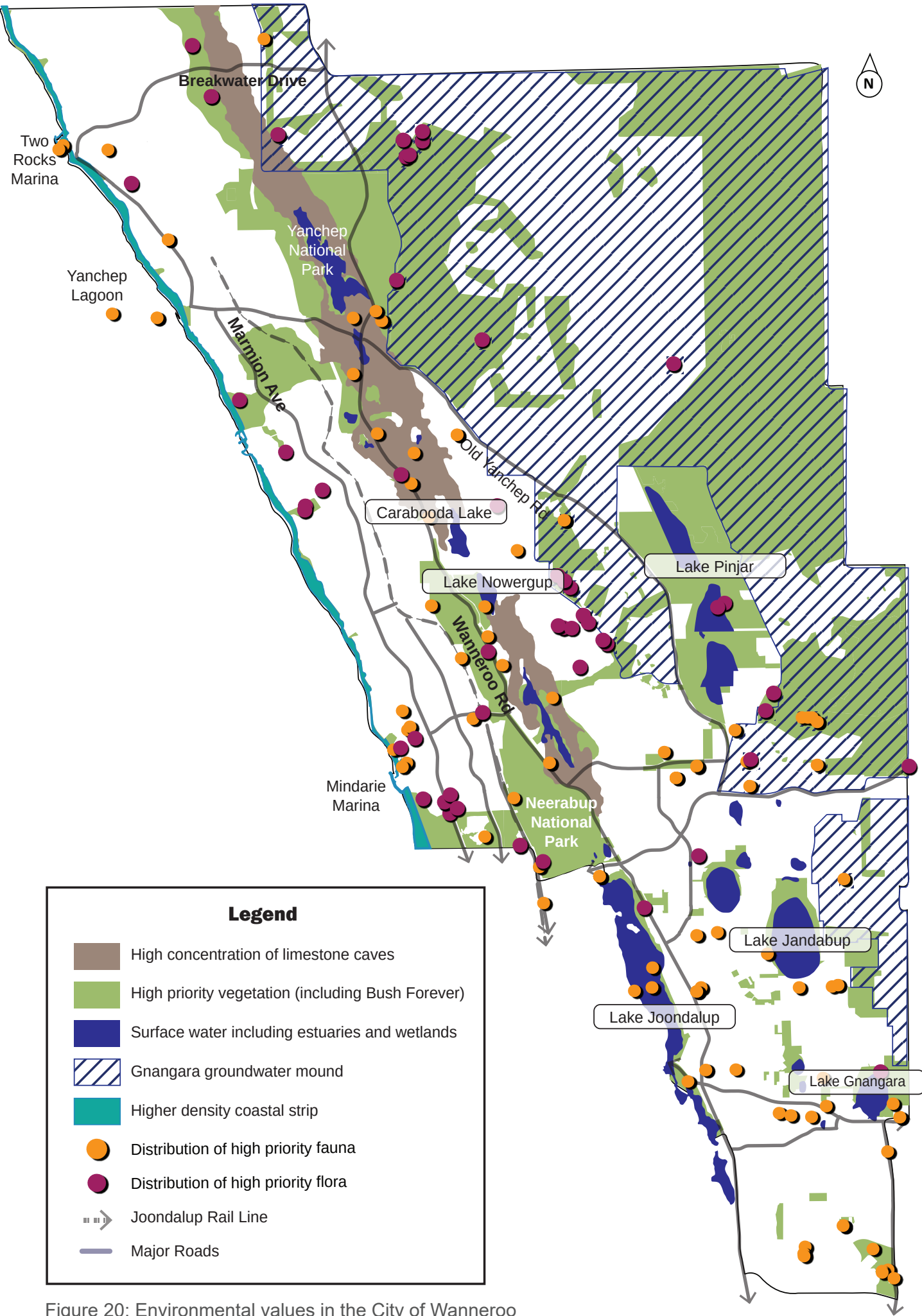


Figure 20: Environmental values in the City of Wanneroo

8.3 Planning Directions and Actions

Issue/Opportunity	Planning Direction	Action	Rationale	Timeframe
8.3.1 Climate Change Improve the energy efficiency and use of water in buildings and reduce the carbon footprint of developments.	Investigate ways to encourage the 'adaptive re-use' of buildings, through State and local planning frameworks.	a. Work with the State Government, private developers and industry associations to explore incentives for the 'adaptive re-use' of buildings in appropriate zones and incorporate them into State and local planning frameworks.	Section 4.3.1 of part 2 supports retaining existing built form and re-purposing it for other uses to assist with reducing the carbon footprint of developments.	Short Term
	Offer planning approval exemptions and / or incentives for increased energy efficiency and water sensitive design in buildings.	b. Review Local Planning Policy 4.29: Renewable Energy Systems to determine if additional planning approval exemptions can be included for both residential and non-residential renewable energy systems. c. Investigate planning incentives for LPS 3 (e.g. density, plot ratio, height) and / or a local planning policy for developers undertaking larger-scale projects that demonstrate specific environmentally sustainable design standards.	Section 4.3.1 of part 2 encourages increasing the uptake of renewable energy facilities in residential neighbourhoods, particularly solar to improve the viability of technology such as virtual power plants (battery storage). Providing further incentives for the development and installation of renewable energy systems will increase the uptake of such systems, and reduce perceived 'red tape'.	Short Term
	Encourage partnerships to deliver demonstration projects that showcase ecological sustainable development outcomes to the community, and how it can be achieved in a local context.	d. Encourage partnerships with private developers, Development WA, the Department of Communities and other State-government agencies on sustainable development opportunities and demonstration projects within the City's development areas and emerging activity centres, including 'Green Star Certified' (or similar) development areas.	Section 4.3.1 of part 2 acknowledges that there are a number of examples in the Perth metropolitan area where State agencies and local governments have collaborated to deliver innovative and sustainable development outcomes. There is significant potential to explore similar development synergies within Wanneroo.	Medium Term
8.3.2 Protecting Biodiversity and increasing Urban Forest Ensure that environmental considerations are more prominently considered in planning processes. Retain and enhance the City's urban forest and increase the provision of tree canopy.	Outline the locations of biodiversity hotspots and areas of high quality vegetation in the City and strengthen provisions in the local planning framework to protect them.	a. Include the relevant outcomes of the updated Local Biodiversity Plan in a revised version of the Local Planning Strategy and outline opportunities to protect higher priority native vegetation through its local planning framework. b. Review structure plans to determine opportunities to protect priority natural areas and consider how current and future structure plans will propose to protect priority natural areas as part of the City's assessment processes.	Section 4.3.1 of part 2 supports the introduction of functional 'linear parkways' and open space design, informed by the ecological linkages and priority vegetation mapped in the Local Biodiversity Plan, to be embedded into future planning and neighbourhood design responses.	Short Term

Issue/Opportunity	Planning Direction	Action	Rationale	Timeframe
	Include requirements in the local planning framework for developers to plant trees and for existing trees to be protected, to assist to implement the Urban Forest Strategy actions.	c. Explore provisions for LPS 3 to require a certain number of trees to be provided per square metre of development sites, over and above the minimum requirements of the Residential Design Codes.	Section 4.3.1 of part 2 identifies that mature trees improve the liveability of places in a number of ways including reducing stormwater run off, increasing air quality, storing carbon, providing shade, and reducing urban heat-island effects.	Short Term
		d. Work with State Government to investigate mechanisms within the local planning framework to develop and facilitate a Significant Tree Register. This may include collating a database of established specimens within the City for inclusion on the register.	Section 4.3.1 of part 2 supports the preparation of a significant tree register to identify existing trees and vegetation worthy of protection being protected.	Short Term
		e. Investigate whether a review of the existing Local Planning Policy 4.8: Tree Preservation could be used for the purpose of action d.		
		f. Consider introducing minimum tree planting and/or tree retention requirements for Commercial and Industrial development in LPS 3 and/or a local planning policy.	Section 4.3.1 of part 2 recognises minimum tree planting requirements apply to some residential development and encourages these to be expanded for commercial and industrial development to increase the City's urban tree forest.	Short Term
		g. Explore expanding the minimum soft landscaping requirement for non-residential developments in LPS 3 from the current 8%, with a particular emphasis on increasing landscaping and deep soil areas within the front setback area of a development site (i.e. between the street and building). Percentage of landscaping may vary dependent on development size and/or zone and provisions may be supplemented by a local planning policy.	Section 4.3.1 of part 2 encourages increasing minimum requirements for soft landscaping and/or deep soil area percentages to reduce areas of hardstand and encourage landscaping, further reducing the urban heat island effect and enhancing streetscapes.	Short Term
	Consider the viability of the use of the City's verges for urban agriculture will be considered through the local planning framework	h. Investigate the viability of the use of the City's verges for urban agriculture, and amend the relevant Council and planning policies to facilitate this.	Section 4.1.5 of part 2 encourages retaining street trees and existing vegetation corridors to facilitate safe wildlife and pedestrian movement between larger areas of open space.	Medium Term

Issue/Opportunity	Planning Direction	Action	Rationale	Timeframe
8.3.3 Waste Management and Contamination Reduce waste and encourage recycling and or the reuse of waste produced to support the circular economy, lessen the need to extract resources and lowers the potential for contamination.	Ensure appropriate planning and management of contaminated sites, subject to rehabilitation potential.	a. Investigate alternative interim uses for contaminated sites within the City, whilst ensuring adherence to all guidelines and processes administered by the Department of Water and Environmental Regulation when considering future options for contaminated sites.	Section 4.3.1 of part 2 identifies that alternative uses for contaminated sites, particularly those in established areas, could be investigated as a longer-term goal. As the City develops and the economics of remediation improve, pressure may mount on developing this surplus land for alternative purposes. Such uses of contaminated land could be for public open space and recreation purposes, as well as the development of renewable energy facilities (e.g. solar farms), where soil disturbances can be minimised. In the interim, the City will seek to maintain and improve upon its management of existing contaminated sites, as well as minimise the impact of contamination upon existing environmental assets through land use controls.	Long Term
	Support the delivery of deep sewerage in areas where more housing could be delivered.	b. Advocate for sewerage infrastructure to be provided or upgraded in areas where new development could occur.	Section 4.2 of Part 2 discusses that there are infill areas where development could potentially occur which do not have deep sewerage, such as Yanchep and Two Rocks. It also discusses that applying higher densities and delivering more housing in the planning areas of Wanneroo, Girrawheen and Koondooa are subject to the capacity of existing utilities including sewerage.	Medium Term
8.3.4 Water Management Integrate the management of water into the planning framework to support water security and the environment.	Ensure the holistic consideration of urban and regional water management matters within the planning framework.	a. Following finalisation of the DPLH's wetland framework, the City will consider the findings and actions from the Strategy's Water Management Study and investigate the potential to implement the listed recommendations into the local planning framework, where appropriate and in line with SPP 2.9. This may include updates to: <ul style="list-style-type: none"> the Local Planning Scheme; local planning policies, including Local Planning Policy 4.1: Wetlands and Local Planning Policy 4.4: Urban Water Management; and Water management studies that support structure plans. 	Section 4.4.1 of part 2 identifies the importance of protecting and managing the City's finite water resources in accordance with SPP 2.9. This section also references the Water Management Study which has been included as Appendix C.	Medium Term

Issue/Opportunity	Planning Direction	Action	Rationale	Timeframe
		b. Advocate to the State Government to provide alternative water sources to growers to supplement the 10% water allocation reduction to this industry	Section 4.4.1 of part 2 identifies the importance of protecting water sources to support the sustainable production of locally grown produce in North Wanneroo.	Short Term
8.3.5 Coastal Assets and Growth Ensure that coastal development balances local needs with the protection and preservation of the environment.	Consider how applicable actions from the Coastal Management Plan 2021 (CMP) are implemented throughout the local planning framework.	a. Review and amend existing structure plans to reflect coastal node hierarchy as per the CMP.	Section 4.3.2 of part 2 encourages the City's planning framework to reflect the CMP, particularly within structure plans, to enable the applicable infrastructure and facilities to be provided over time.	Short Term
		b. Explore how structure plans over land identified as vulnerable under the City's Coastal Hazard Risk Management and Adaptation Plan (CHRMAP), can be reviewed and amended to align with the CHRMAP and State Planning Policy 2.6 – Coastal Planning to provide for land use and development within areas subject to appropriate conditions applied to subdivision and development applications. This may include considering Notifications on Certificates of Title as well as time-limited approval, where relevant.	Section 4.3.2 of part 2 recognises all future development along the City's coastline should have regard to the vulnerability lines shown in the CHRMAP.	Short Term
		c. Explore the introduction of Special Control Areas under LPS 3, or a similar planning mechanism, over land identified as vulnerable by CHRMAP.	Section 4.3.2 of part 2 identifies the needs for a special control area (or similar) to establish specific development controls for land parcels that are vulnerable to coastal erosion, ensuring that all development within designated areas are assessed against specific future vulnerability criteria	Short Term